

ACCESSION NR: AP4018373

data into the tape. The instrument, whose functional diagram is shown in Enclosure 1, permits 4-5 times quicker data processing. The instrument has been in actual operation since March, 1962; its output agrees with the manual-processing output to within 3%. "The authors wish to thank I. V. Chuvilo for a few valuable hints and comments made by him during the development of this instrument." Orig. art. has: 10 figures.

ASSOCIATION: Ob"yedinenny*y institut yaderny*kh issledovaniy (Joint Nuclear Research Institute)

SUBMITTED: 13Mar63

DATE ACQ: 18Mar64

ENCL: 01

SUB CODE: NS

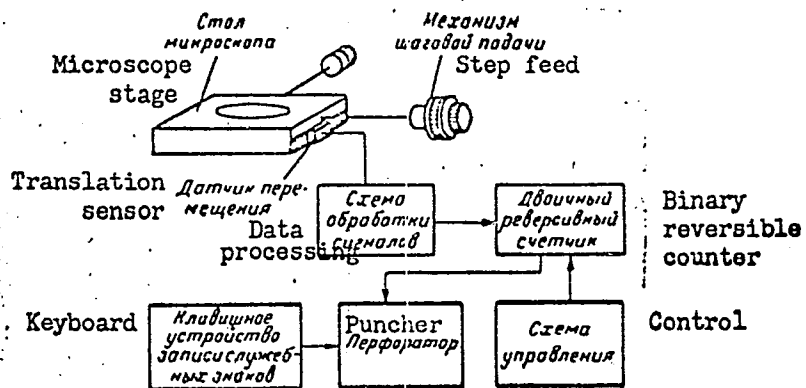
NO REF SOV: 002

OTHER: 001

Card 2/3

ACCESSION NR: AP4018373

ENCLOSURE: 01



Functional diagram of the additional equipment
for measuring multiple-scattering parameters

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KARZHAVIN, Yu.A.; KULIKOV, Yu.V.; MALASHKEVICH, N.I.; RAKITSKIY, D.V.; RAMZHIN, V.N.

High-power source of stabilized voltage of $\pm 250\text{kv}$. Prib. i tekhn. eksp.
10 no.1:120-123 Ja-F '65. (MIRA 18:7)

1. Ob"yedinennyy institut yadernykh issledovaniy.

SOV/51-6-3-14/28

AUTHORS: Levshin, V.L., Gutan, V.B. and Karzhavina, E.N.

TITLE: On the Possibility of Recombination Processes in Luminescence of Tungstates and Uranyl Compounds (O vozmozhnosti rekombinatsionnykh protsessov svecheniya v vol'framatakh i uranilovykh soyedineniyakh)

PERIODICAL: Optika i Spektroskopiya, 1959, Vol 6, Nr 3, pp 372-376, (USSR)

ABSTRACT: This paper was presented at the Seventh Conference on Luminescence in July 1958. The authors describe their studies of luminescence of uranyl silicate (UO_2SiO_3) and calcium tungstate ($CaWO_4$). The apparatus used was developed by a group of engineers working at the Physics Institute imeni P.N. Lebedev at the Ac. Sc. USSR, who were directed by A.G. Zavrzhin and amongst whom was E.N. Karzhavina. This apparatus made it possible to study luminescence of phosphors excited with electrons or with light between -185 and +300°C. Both substances were free from impurities. $CaWO_4$ was prepared by Yu.S. Leonov
Card 1/3 of FIAN. The phosphors were irradiated with a 10^{-7} A/cm²,

SOV/51-6-3-14/28

On the Possibility of Recombination Processes in Luminescence of Tungstates and Uranyl Compounds

14 kV beam of electrons for 30 minutes at -185°C. When cathodoluminescence died away completely the phosphors were heated at the rate of 10 deg/min. The resultant thermal de-excitation (thermoluminescence) curves are shown in Figs.1 (UO_2SiO_3) and 3 ($CaWO_4$). Electron-irradiated, thermally de-excited and subsequently photoexcited at 366 and 312 mμ, calcium tungstate also exhibited thermoluminescence (Fig.4). Photoexcitation of $CaWO_4$, which was not previously electron-irradiated, and photoexcitation of UO_2SiO_3 , whether electron-irradiated or not, did not produce any thermoluminescence. The intensities of thermoluminescence were of the order of several per cent compared with cathodoluminescence. Cathodoluminescence of both substances decayed hyperbolically at -185°C (Figs.5,6). The observed thermoluminescence and the hyperbolic decay of cathodoluminescence are ascribed to disturbance of the crystal lattice by the electron beam with resultant formation of centres at which electrons can be localised.

Card 2/3 Cathodoluminescence is due to recombination of all the

SOV/51-6-3-14/28

On the Possibility of Recombination Processes in Luminescence of
Tungstates and Uranyl Compounds

trapped electrons liberated from shallow levels, and thermo-
luminescence is due to the electrons freed from deeper levels.
There are 6 figures and 4 references, of which 2 are Soviet,
1 German and 1 English.

SUBMITTED: March 27, 1958

Card 3/3

ACCESSION NR: AP4009090

S/0056/63/045/006/1743/1753

AUTHORS: Wang, Nai-yen; Vizi, I.; Yefimov, V. N.; Karzhavina, E. N.;
Kim, Khi San; Popov, A. B.; Pikel'ner, L. B.; Pshitula, M. I.;
Stadnikov, T.; Ch'eng, Ling-yen; Sharapov, E. I.; Shelontsev, I. I.;
Shirikova, N. Yu.; Yazvitskiy, Yu. S.

TITLE: Investigation of the neutron resonances of Rh-103

SOURCE: Zhurnal eksper. i teoret. fiziki, v. 45, no. 6, 1963,
1743-1753

TOPIC TAGS: rhenium 103, neutron resonance, slow neutron spectro-
metry, p neutrons, s neutrons, force functions, Porter Thomas law,
transmission measurement, scattering measurement, capture measurement

ABSTRACT: This is a report of the first results obtained with the
slow neutron spectrometer developed at the Ob'yedinenny*y institut
yaderny*kh issledovaniy (Joint Institute of Nuclear Research)

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ACCESSION NR: AP4009090

(described by Blokhin et al, in Atomnaya energiya, v. 10, 437, 1961) for a systematic investigation of neutron resonances and for the accumulation of a complete set of parameters for each neutron resonance study. The development was stimulated by the fact that as a rule the number of resonances known for each individual element is statistically limited, and the acquisition of new data on the resonances and their spins is of timely interest. Transmission, scattering and capture measurements were made with this spectrometer for several samples of Rh^{103} , which in addition to being a convenient element for such investigations also lies in the region where resonances induced by p-neutrons might be discovered. The measurements were made at resolutions of 0.04, 0.08, and 0.05 $\mu\text{sec/m}$, and the parameters of 17 resonances and the spins of 8 levels were determined. The observed deviation from the Porter-Thomas law with a single degree of freedom is attributed to the fact that some 4 or 5 resonances are due to neutrons with unity orbital angular momenta. Force functions for neutrons with zero and unity momenta were esti-

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ACCESSION NR: AP4009090

mated under these assumptions at $S_0 = (0.46 \pm 0.18) \times 10^{-4}$ and $S_1 = (1.8 \pm 1.4) \times 10^{-4}$. "In conclusion, we thank I. M. Frank and F. L. Shapiro for interest in the work and for useful discussions." Orig. art. has: 7 figures, 9 formulas, and 2 tables.

ASSOCIATION: Ob'yedinenny*y institut yaderny*kh issledovaniy
(Joint Institute of Nuclear Research)

SUBMITTED: 01Jun63

DATE ACQ: 02Feb64

ENCL: 01

SUB CODE: PH

NO REF SOV: 007

OTHER: 006

Card 3/43

ACCESSION NR: AP4042367

S/0056/64/047/001/0043/0051

AUTHORS: Wang, Nai-yen; Iliyesku, N.; Karzhavina, E. N.; Kim, Khi San, Popov, A. B.; Pikel'ner, L. B. Stadnikov, T.; Sharapov, E. I.; Yazvitskiy, Yu. S.

TITLE: Neutron resonances in praseodymium and terbium

SOURCE: Zh. eksper. i teor. fiz., v. 47, no. 1, 1964, 43-51

TOPIC TAGS: praseodymium, terbium, resonance scattering, neutron scattering, neutron spectrum, Fermi statistical theory

ABSTRACT: This is a continuation of earlier neutron-resonance measurements made on radium and bromine (ZhETF v. 45, 1743, 1963 and v. 45, 1294, 1963). The Tb and Pr resonance parameters and the spins of many levels were determined by measuring the transmission, the radiative capture, and the neutron scattering. Transmission was measured with the apparatus of I. Vizi et al. (Nuclear electronics,

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ACCESSION NR: AP4042367

v. 1, Vienna, 1962, page 27). Radiative capture was studied by means of the detector described by L. B. Pikel'ner et al. (PTE, no. 2, 51, 1963). A total of 22 levels at energies up to 100 eV and 14 levels at energies up to 1000 eV (of which four were observed for the first time) were analyzed for Tb and Pr, respectively. The new measurements were obtained using a neutron time-of-flight spectrometer and the OIYAI pulsed fast reactor of the Joint Institute for Nuclear Research. The average value of the radiation widths of the Tb and Pr levels were found to be 86 MeV for both elements. The neutron width distribution for all substances do not agree very well with the Porter-Thomas distribution. Measurements with better resolution and in a much wider energy range are necessary to refine the neutron width distribution. "We thank F. L. Shapiro for interest and valuable discussions, and I. I. Shelontsev and N. Yu. Shirikova for the electronic computer calculations." Orig. art. has: 2 figures and 2 tables.

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ACCESSION NR: AP4042367

ASSOCIATION: Ob"yedinenny*y institut yaderny*kh issledovaniy
(Joint Institute of Nuclear Research)

SUBMITTED: 28Jan64

ENCL: 02

SUB CODE: NP

NR REF SOV: 007

OTHER: 009

3/5

ACCESSION NR: AP4042367

ENCLOSURE: 01

Tb resonance parameters

E_n , eV	$g\Gamma_n$, meV	Γ_n , meV	J	$2g\Gamma_n^0$
3,340 ± 0,005	0,21 ± 0,02	80 ± 10	2*	0,23
4,08 ± 0,01	0,032 ± 0,003		1*	0,020
11,05 ± 0,02	5,0 ± 0,2	87 ± 6	2	3,02
14,38 ± 0,03	0,084 ± 0,008			0,044
21,20 ± 0,05	0,62 ± 0,06			0,28
24,0 ± 0,07	2,7 ± 0,2	76 ± 11	2	0,12
27,6 ± 0,08	0,47 ± 0,05			0,18
33,0 ± 0,11	1,4 ± 0,2	81 ± 15	1	0,48
40,7 ± 0,15	0,29 ± 0,05			0,091
43,7 ± 0,17	2,5 ± 0,2	76 ± 11	2	0,765
46,1 ± 0,18	6,7 ± 0,5	89 ± 11	2	1,97
50,3 ± 0,20	1,3 ± 0,3			0,37
51,6 ± 0,20	0,54 ± 0,07			0,15
54,2 ± 0,23	0,30 ± 0,05			0,081
57,3 ± 0,25	0,66 ± 0,07			0,176
58,7 ± 0,25	0,85 ± 0,15			0,22
65,5 ± 0,30	5,0 ± 0,5	92 ± 20		1,25
66,8 ± 0,30	1,2 ± 0,1			0,29
74,0 ± 0,35	8,5 ± 0,6	87 ± 13	2	1,98
76,8 ± 0,4				
78,0 ± 0,4				
88,8 ± 0,5	1,8 ± 0,2			0,38
90,6 ± 0,5	3,8 ± 0,3			0,8
97,5 ± 0,5	14 ± 1	103 ± 14	1	2,7

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*Spin values determined elsewhere

839 ± 7	2200 ± 100	88 ± 15		80,5
942 ± 8	1470 ± 70	83 ± 15	3	151,6
		107 ± 20	2	96,0

Card 5/5

1ST AND 2ND COLUMNS																										PROCESSES AND PROPERTIES INDEX																									
COMMON ELEMENTS																										SIGN. SYMBOLS AND NUMBERS																									
<p>Ionium in dispersed masses of Tyuya-Muyun. Description of the method of preparation of a solution for its determination. I. D. KURBATOV, N. A. KANZHAVINA AND N. A. SARSOLO. <i>Compt. rend. acad. sci. U. R. S. S. 1930A, 60-74.</i>—In certain ores of Tyuya-Muyun, Ra is shown to be present in excess of the amt. in radioactive equil. with U. It is assumed that this is due to the presence and transformation of Io. As there is no direct method for detn. of Io an indirect method was devised to solve the problem whether Io is in excess of the equil. ratio of Io:U. The sample was fused with Na₂CO₃ and a Ba salt. Ra and Ba were sepd. as sulfates. The initial amt. of Ra and that resulting from transformation of Io were detd. with a Wulf electrometer. The results confirmed the assumption. Still another mineral deposit of Io and Ra probably exists in Tyuya-Muyun.</p> <p style="text-align: right;">J. G. TOLPIN</p>																																																			
<p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			
<p>1ST AND 2ND COLUMNS</p>																																																			

21

The catalytic formation of methane from carbon monoxide in industrial gases. N. A. Kotobayina, *J. Chem. Ind. (Moscow)* 13, 648-652 (1936). — CH₄ cannot be profitably produced from ordinary blast-furnace gas, but if the gas has been produced by blowing O₂ into the furnace, a gas can then be obtained contg. up to 60.6% CH₄, after absorption of CO₂. The best catalyst for the conversion with steam consists of 84% Ni and 16% Al₂O₃, at about 400°.

H. M. Leicester

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

PERIODIC TABLE OF ELEMENTS																									
GROUPS AND PERIODS													PROCESSES AND PROPERTIES INDEX												
<p>Combustion of carbon. Dynamics of gas formation in a layer of charcoal. N. A. Karzhavina. <i>Tekhn. Fiz.</i> U. S. S. R. 5, 633-46 (1938) (in English). See C. A. 32, 7690.</p>																									
<p>ASAC-55A METALLURGICAL LITERATURE CLASSIFICATION</p>																									
<p>GROUPS AND PERIODS</p>																									

1st and 2nd Orders

PROCESS AND PROPERTIES INDEX

21

PA

Combustion of carbon. III. Dynamics of gas formation in charcoal layers. N. A. Karzhayina. *J. Tech. Phys.* (U. S. S. R.) 8, 725-36 (1938); cf. C. A. 32, 6838^g.
 — At low concns. of O (up to 5%) and a temp. of 1100° the burning of wood charcoal in thin layers (10-12 mm.) proceeds with the formation of equal aints. of CO and CO₂. At higher O concns. (up to 40%), especially when the rate of gas passage exceeds 0.4 m./sec., the formation of CO is the predominant reaction. For wood charcoal with particle size 0.5 to 5 mm. the zone of reaction with O is approx. 7-15 mm. This range is practically independent of the rate of gas passage (0.1 to 2.5 m./sec.) and of the concn. of O (7 to 42%).
 John Livak

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

1st and 2nd Orders

1st and 2nd Orders

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
COMMON ELEMENTS																										COMMON VARIABLES																									
<p style="text-align: center;">PROCESSES AND PROPERTIES INDEX</p> <p style="text-align: center;">Combustion of carbon. IV. Oxidation of layers. Z.</p> <p>F. Chukhanov and N. A. Karzhavina. <i>J. Tech. Phys.</i> (U. S. S. R.) 9, 1933-44 (1939); El. Karzhavina, <i>C. A.</i> 33, 3110. —The results of K. and of L. Meyer (<i>C. A.</i> 28, 7122) are discussed. Oxidation of a layer of coal at 1154-1600° in rapidly flowing air takes place according to the equations $3C + 2O_2$ (absorbed) = C_3O_2, C_2O_2 + $C + O_2$ (gas) = $2CO + 2CO_2$, and $C_2O_2 = 2CO + CO_2$. The first reaction is most important above, and the others are important below, 1.5% of O_2. The activation energy of the combined reactions is calcd. to be 20,000 cal.</p> <p style="text-align: right;">T. I. Bikerman</p>																																																			
<p style="text-align: center;">ASR-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			
1ST ORDER																										2ND ORDER																									
3RD ORDER																										4TH ORDER																									

21

The combustion of carbon. V. Z. F. Chukhanov and N. A. Karbayeva. *J. Tech. Phys.* (U. S. S. R.) 10, 1256-57 (1940), cf. C. I. 34, 4252. The velocity of combustion is proportional to the 1.6 power of the O concentration. The proportionality coeff. is proportional to linear velocity of gas flow. Its dependence on temp. is very complicated. Formulas are developed for computation of the amt. of O used, the rate of gas formation, and the compn. of gas. The theory agrees well with exptl. results. R. G.

21

Burning of carbon. IV. Oxidation of a charcoal layer.
Z. F. Chukhanov and N. A. Karchavina. *Fuel* 20, 44-7,
73-7(1941).—See C. A. 34, 4252a. E. H.

ASM-A METALLURGICAL LITERATURE CLASSIFICATION

21

PROCESSIES AND PROPERTIES INDEX

Ca

Combustion of carbon monoxide. N. A. Karzhavina (Inst. Nitrogen Industry, Moscow). *J. Phys. Chem.* (U.S.S.R.) 19, 551-53 (1945).—A pre-warmed mixt. of CO (x%), O₂ (y%), N₂ and H₂O (z%) was passed through a hot tube 23 mm. in diam. The oxidation of CO was a vol. reaction as its rate, μ , was independent of the rate of flow of the gas (between 4 and 26 l./min.) and of the material of the tube (quartz, iron). At 1050° μ was proportional to x or to $x^{0.5}$ (between 2 and 75%) and increased with y between 0.3 and 5% to become independent of y at higher concns. (up to 70%). At 1050° (x , 10 to 15%) μ was proportional to $x^{0.5}$. With y at 30 to 45% μ was de'd. between 800 and 1500°; the apparent energy of activation was 15,000 cal. at 1300° and greater at higher temps. I. J. Bickerman

ASB-11A METALLURGICAL LITERATURE CLASSIFICATION

REGION SYMBOLS		REGION SYMBOLS	
SYMBOL	SYMBOL	SYMBOL	SYMBOL
1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24
25	26	27	28
29	30	31	32
33	34	35	36
37	38	39	40
41	42	43	44
45	46	47	48
49	50	51	52
53	54	55	56
57	58	59	60
61	62	63	64
65	66	67	68
69	70	71	72
73	74	75	76
77	78	79	80
81	82	83	84
85	86	87	88
89	90	91	92
93	94	95	96
97	98	99	100

2

CA

Effect of pressure on the rate of the reduction of carbon dioxide by carbon. N. A. Kargin. *Doklady Akad. Nauk S.S.S.R.* 73, 671-3 (1960).—The yield of CO in the passage of CO₂ mixed with varying proportions of N₂ at the rate of 300 ml./min., over a layer of charcoal or electrode C, at 900° does not vary with the total pressure between 1 and 15 atm., at any fixed concn. of CO₂. With respect to that concn., the yield is approx. of the 1st order up to about 50% CO₂ in the gas, but then becomes and remains independent of it (zero order). In terms of the height of the C column (grain size 2-3 mm.), at constant initial concn. of CO = 90%, the CO₂ content in the outgoing gas decreases, and the CO content increases with increasing height of column, but is not proportional to it, evidently because of both a decreasing concn. of CO along the column and nonuniform temp. Variation of the pressure between 1 and 15 atm. has no effect on the limits of either CO₂ or CO in the outgoing gas at any given height of the C column. N. Thom

B.I.R. KARZHAYINA, N.A.

Fuel Technology

5858* Study of the Burning of Carbon in Layers. (In Russian.) N. A. Karzhayina. *Izvestiya Akademii Nauk SSSR, Section of Technical Sciences*, Aug. 1951, p. 1165-1177. Laboratory experiments were made on the oxidation of powdered coal and wood. The influence of rate of blast, oxygen concentration, and temperatures were determined. Data are tabulated, charted, and discussed.

KARZHAVINA, N. A.

Chemical Abst.
Vol. 48 No. 4
Feb. 25, 1954
Fuels and Carbonization Products

The process of combustion of carbon in a layer. N. A. Karzhavina. Izvest. Akad. Nauk S.S.S.R., Otdel. Tekh. Nauk 1953, 959-91; cf. C.A. 47, 71871. — The previous work on combustion of C in small particles in a layer with high O concn. in the atm. (up to 100%) was extended. Curves on gas formation through the layer of electrode C and charcoal are given. With wide variation of conditions (O 2.5-100%; rate of air intake 0.05-0.4 m./sec.) and temp. (300-1110°) it was shown that a particularly great effect is displayed in the 700-800° temp. range; with rise in temp. the O-zone height drops, while with increase speed of draft it rises. At temps. above 700° the O-zone with fine coal shrinks approx. to the dimensions of the particles, and at higher temps. the rate of draft and the nature of C do not show further effects on the O-zone dimensions. With fine electrode C material a beneficial effect of increased draft speed on the yield of CO is found under conditions in which the reaction of reduction of CO₂ is insignificant (below 1100°). With charcoal the variation of draft speed is connected with variation of the proportion of decompd. CO₂ in the O zone (above 900°), and the beneficial effect of draft speed on the yield of CO is thus not realized. The effect of O concn. depends greatly on the nature of the C used and on conditions which affect combustion of CO and reduction of CO₂. Results are given graphically. G. M. Kosolapoff.

8-6-54
gpp

KARZHAVINA, N. A.

24-9-11/33

AUTHORS: Karzhavina, N.A., Keneman, F. Ye and Chukhanov, Z.F. (Moscow)

TITLE: High speed thermal decomposition of fuel by means of a gaseous heat carrier. (Vysokoskorostnoye termicheskoye razlozheniye topliva gazovym teplonositelem).

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1957, No.9, pp. 82-89 (USSR)

ABSTRACT: In earlier experiments by one of the authors, Chukhanov, Z.F. and his team (Refs. 1 and 2), it was found that, in the case of high speed heating, separation of the main quantity of volatiles is delayed compared to the heating time of the fuel. Therefore, heating of pulverised fine grain fuel by means of a gaseous heat carrier to a certain temperature within fractions of a second permits materialising a two-stage process of thermal decomposition of the fuel; the first stage being very rapid heating and the second stage consisting of liberation of the volatile substances inside apparatus specially designed for this purpose. The volatiles are separated out in a pure form without being diluted by the gaseous heat carrier so that a gas of a maximum calorific value is obtained and capture of liquid products is facilitated. In this paper the results are described of further experiments wherein the heating was effected inside a tube with the fuel particles going

Card 1/3

24-9-11/33

High speed thermal decomposition of fuel by means of a gaseous heat carrier.

downwards and the gaseous heat carrier (super-heated steam) being driven upwards (in counter current). Steam is preferable to flue gases since after condensation it permits measurement of the gas yield in the first stage of the process and also up to 600°C it represents an inert heat carrier. The results are given of experiments of heat and thermal decomposition of Moscow region coal and Baltic shale in an experimental set-up with an output of up to 150 kg/hr of fuel of 1 to 2 mm and 2 to 3 mm fractions. A sketch of the experimental set-up is shown in Fig.1. The heating retort consists of a vertical tube of 0.2 m dia. and 12 m long. The heated fuel was fed into a chamber by means of a worm arrangement and the products of thermal decomposition were drawn off through a side opening and fed into a cooler, ventilator and, finally, into a gas container. For maintaining a constant fuel temperature in the thermal decomposition chamber, it was fitted with an electric winding which enabled compensation of the heat loss into the ambience. The fuel was held in the decomposition chamber for about two hours. Drawbacks

Card 2/3 comprised inadequate hermeticity of the chamber and the

SOV/24-58-8-31/37

AUTHORS: Karzhavina, N. A. and Keneman, F. Ye. (Moscow)

TITLE: Investigation of the Thermal Decomposition of Pulverised Peat Whilst Heating it at High Speeds (Issledovaniye termicheskogo razlozheniya pylevidnogo torfa v protsesse yego bystrogo nagreva)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1958, Nr 8, pp 150-153 (USSR)

ABSTRACT: The process of thermal decomposition of pulverised peat whilst heating it at great speed by means of a gaseous heat carrier was studied on a laboratory scale by V. V. Kalyuzhnyy (ENIN, AN SSSR) and V. A. Shkele (Chemistry Institute, Latvian SSR). The main aim of these authors was to study the high speed "bertination" (berginization ?) of fuel and the elimination from it of ballast products during heating for a fraction of a second to several hundreds °C by means of a gaseous heat carrier. In this paper the results are described of experimental investigation of the thermal decomposition, within a wide range of temperatures, of pulverised milling peat during its heating in a stream of super-heated steam. It is shown that for a heating speed of 1000°C/sec

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SCV/24-58-8-31/37

Investigation of the Thermal Decomposition of Pulverised Peat Whilst Heating it at High Speeds

and a total and decomposition time of about 0.6 sec and a heating temperature range 200-400°C, a gas is generated which contains 80% CO₂ and 20% CO, i.e. a "high speed bertination gas". Thereby, the degree of decomposition of the peat substance is small; the total separation of pitch and pyrogenetic water at 400°C is about 20% and the gas yield about 1.5wt% of the initial weight of the dry peat. At temperatures above 400°C the peat decomposition is more intensive, the calorific value of the generated gas increases rapidly and the yield of pitch also increases. Therefore, for the here mentioned heating and decomposition time, the thermal decomposition should be effected in the temperature range 400-420°C; the calorific value of the thus processed peat differs little from that of the peat in the initial state. In the here described investigations the peat was heated in a flow of super-heated steam for a fraction of a second, then the heated peat was rapidly separated from the steam heat carrier in a cyclon and cooled in flowing water. Thus, the volatile products could separate only during the time

Card 2/4

SOV/24-58-8-31/37

Investigation of the Thermal Decomposition of Pulverised Peat Whilst Heating it at High Speeds

of heating and movement of the peat in the retort and in the cyclon. The processing capacity of the test set-up was 20-30 kg of peat per hour. A schematic diagram of the test installation, which is described in the paper in some detail, is shown in Fig.1. The results are graphed in Figs.2-7. Study of the yield and the composition of the gas leads to the preliminary conclusion that it is advisable to apply such high speed "bertination" for the purpose of improving the peat so as to obtain more valuable products during the subsequent thermal decomposition. The results of the calculations of the relative quantities of separated-out volatile substances and the changes in the quantity of the chemical elements in the peat which was heated during the experiments are entered in Figs. 4 and 5, the latter showing the chemical composition of the peat in experiments with various heating temperatures. The graph Fig.5 shows the content of chemical elements of peat in experiments with various heating temperatures. For heating temperatures not exceeding 300°C the contents of hydrogen and carbon are

/SOV/24-58-8-31/37

Investigation of the Thermal Decomposition of Pulverised Peat Whilst Heating it at High Speeds

20 and 10% respectively; at 500°C over 50% of the hydrogen and 30% of the carbon goes over from the peat into the decomposition products. The calorific values of the heated peat, determined in a bomb, are entered in a table, p.153; the calorific value is near to that of the peat in the initial state, i.e. the peat does not get refined in the retort.

There are 7 figures, 1 table and 1 Soviet reference.

SUBMITTED: December 6, 1957

1. Peat--Decomposition
2. Peat--Heating
3. Peat--Temperature factors
4. Peat--Test methods

Card 4/4

SOV/24-58-11-31/42
AUTHORS: Karzhavina, N. A. and Keneman, F. Ye. (Moscow)

TITLE: Investigation of the Thermal Decomposition of Pulverised Shale in the Process of Rapid Heating (Issledovaniye termicheskogo razlozheniya pylevidnogo slantsa v protsesse yego bystrogo nagreva)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1958, Nr 11, pp 118-120 (USSR)

ABSTRACT: The experiments were carried out on a test set-up used in earlier work (Ref 1) for studying the thermal decomposition of pulverised peat; the experimental technique was the same as that used for milling peat. On the basis of preliminary experiments relating to decomposition of Baltic shale during rapid heating by means of a gaseous heat carrier, it can be concluded that the speed of decomposition at temperatures above 550 to 600°C is very high. At 600°C up to 90% of the volatile substances are separated out during a time interval totalling 0.6 sec for the heating and the decomposition. By using a combination of gaseous and solid heat carriers, it is possible to achieve an extremely high intensity of thermal decomposition, exceeding the intensity of the process

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SOV/24-58-11-31/42

Investigation of the Thermal Decomposition of Pulverised Shale
in the Process of Rapid Heating

when using only a solid heat carrier. The experiments have also shown that high speed heating with a gaseous heat carrier, as suggested by Z. F. Chukhanov, cannot be effected in the temperature range above 420°C if it is desired to obtain a rapid separation of the heated fuel from the gaseous heat carrier and subsequently to obtain products of thermal decomposition in separate apparatus. However, for the given heating and decomposition time it is possible to utilise this principle as the first stage of heating of pulverised shale to temperatures below 420°C. Losses in the heating retort were very small, a few wt.% of the initial quantity of the shale. The progress of separation of volatile substances and of shale decomposition gas is graphed in Fig.1; at temperatures above 500°C an appreciable separation of not only gas but also of tar was observed. The average composition of the gas, which separates during heating of the shale, as a function of the temperature is graphed in Fig.2. It can be seen that, in contrast to gas generated from peat, even at the initial temperature of gas separation (400°), the

Card2/4

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Investigation of the Thermal Decomposition of Pulverised Shale
in the Process of Rapid Heating

composition of the obtained gas differs greatly from that which can be considered as being "bertination" (berginization) gas; it is rich and has a calorific value of at least 2000 kcal/m³. Data on the yield and the characteristic of the gas and heated shale (semi-coke) are entered in a table, p 119. On increasing the temperature the content in the gas of unsaturated hydrocarbons increases and the content of CO decreases. In Fig.3 the change is graphed of the relative quantities of the chemical elements of shale which is heated in the retort. In Fig.4 the calculated values are graphed of the relative content of potential energy in the product of thermal decomposition of the shale. The obtained results are in good agreement with data published by V. V. Kalyuzhnyy (Ref 2); the total time required for heating and decomposition of the heated shale is about 0.5 to 0.6 sec and this value is in good agreement with the calculated value for pulverised shale in the retort, which is evaluated at 0.6 to 0.8 sec.

Card3/4

KAZAKOV, Ye.I.; MALASHENKO, L.P.; TYAZHELOVA, A.A.; PARFENOV, I.A.;
KARZHAVINA, N.A.

Effect of high rate heating and of the process temperature on
the composition of coal tar in the thermal decomposition of
Moscow Basin coal. *Energotekh.ispol'.topl.* no.1:131-138 '60.
(MIRA13:10)

(Coal-tar products)

ANDREYEV, G.S., kand. tekhn. nauk; BOKUCHAVA, G.V., kand. tekhn. nauk, dots.; BRAKHEMAN, L.A., inzh.; BUDNIKOVA, A.V., inzh.; GORDON, M.B., kand. tekhn. nauk, dots.; ZHAVORONKOV, V.N., inzh.; KARZHAVINA, T.V., kand. tekhn. nauk; KOROTKOVA, V.G., inzh.; KORCHAK, S.N., inzh.; KLUSHIN, M.I., kand. tekhn. nauk, dots.; KUZNETSOV, A.P., kand. tekhn. nauk, dots.; KURAKIN, A.V., inzh.; LATYSHEV, V.N., inzh.; OL'KHOVSKIY, V.N., inzh.; ORLOV, B.M., kand. tekhn. nauk, dots.; OSHER, R.N., inzh.; PODGORKOV, V.V., inzh.; SIL'VESTROV, V.D., kand. tekhn. nauk [deceased]; TIKHONOV, V.M., inzh.; TROITSKAYA, D.N., inzh.; KHRUL'KOV, V.A., inzh.; LESNICHENKO, I.I., red. izd-va; SOKOLOVA, T.F., tekhn. red.; GORDEYEVA, L.P., tekhn. red.

[Lubricating and cooling fluids and their use in cutting metals]
 Smazochno-okhlazhdaiushchie zhidkosti pri rezanii metallov i
 tekhnika ikh primeneniia. Moskva, Gos. nauchno-tekhn. izd-vo
 mashinostroit. lit-ry, 1961. 291 p. (MIRA 15:1)
 (Metalworking lubricants)

KARZHAVINA, YE. A.

FA 61T9

USSR/Chemistry - Sulfur Compounds
Chemistry - Water Vapor

Jan 1948

"Determination of the Organic Sulfur Compounds of
Water Vapor," Ye. A. Karzhavina, 4 pp

"Zavod Labor" Vol XIV, No 1, p. 16-24

For determination of large quantities of sulfur compounds, titrated material was mixed with an alkali, whereupon SO_2 was absorbed. For only traces of sulfur compounds, a nephelometric method using barium or lead sulfides was utilized.

61T9

KARZHAVINA Ye. N., PIKELNER, L. B., POPOV, A. E., SHARAPOV, E. I.
YAZVITSKIY, Y. S., VIZI, I., SHUKOV, G. P., and ZABIYAKIN, G. I.

"Liquid Scintillation Detectors for Registering Neutrons."

Joint Institute for Nuclear Research, Dubna, USSR.

report submitted for the IAEA conf. on Nuclear Electronics, Belgrade, Yugoslavia
15-20 May 1961

ACC NR: AP6015639

SOURCE CODE: UR/0413/66/000/009/0046/0046

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000720930002-8

INVENTORS: Brodovskiy, V. N.; Karzhavov, B. N.

ORG: none

TITLE: Dc to three-phase ac converter. Class 21, No. 181187

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 9, 1966, 46

TOPIC TAGS: dc to ac converter, transistorized circuit

ABSTRACT: This Author Certificate presents a dc to three-phase converter containing a three-phase inverter of transistors operating in the switching mode, transformers with shunting diodes, and a control circuit synchronized by external sources. To improve the power characteristics of the converter with operation into an inductive load by supplying controlling signals, the converter contains current transformers whose primaries are connected in series with the load in the power section (see Fig. 1). The transformer secondaries are connected to the bases of the transistor pairs

ACC NR: AP6015639

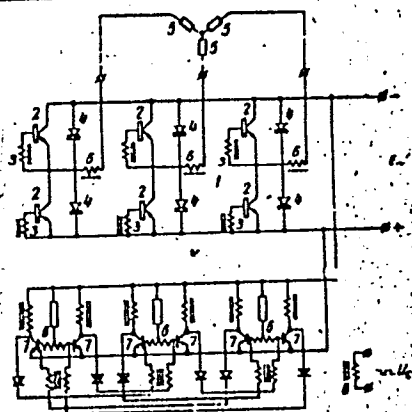


Fig. 1. 1 - power section (three-phase inverter); 2 - power transistors; 3 - controlling transformers; 4 - shunting diodes; 5 - load resistances; 6 - primaries and secondaries of current transformers; 7 - controlling transistors; 8 - single-phase source

of the ring counter control circuit. Orig. art. has 1 diagram.

SUB CODE: 09/

SUBM DATE: 08Dec64

Card 2/2

KARZHEV, V.I.; RABINOVICH, B.Ya.; YEVSEYEV, G.D.

Hydrogenation of esters of synthetic fatty acids. Khim.i tekhn.
topl.i masel 6 no.1:15-19 Ja '61. (MIRA 14:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke
nefti i gazov i polucheniyu iskusstvennogo zhidkogo topliva.
(Acids, Fatty) (Hydrogenation) (Alcohols)

Bulgaria/Military

B-560

KASABOV, L., Polkovnik/Med Serv; and M. Milev are the authors of an article entitled "A Basic Form of Atrio-Ventricular Block." (Voenno Meditsinsko Delo, Sofia, May 61, pp 43-51)

24
(1)

KASAB'YAN, S.S. (Makhaohkala)

Histochemical ascorbic acid content of the normal meninges and choroid plexus. Arkh. pat. 22 no. 10:50-53 '60. (MIRA 13:12)

1. Iz kafedry patologicheskoy anatomii (zav. - prof. S.S. Kasab'yan) Dagestanskogo meditsinskogo instituta (dir. - prof. N.T. Nagornyy).

(MENINGES) (CHOROID PLEXUS) (ASCORBIC ACID)

KASAB'YAN, S.S.

Histochemical determination of the iron content of the human
placenta during various periods of pregnancy. Akush.i gin. 36
no.4:75-77 J1-Ag '60. (MIRA 13:12)
(PLACENTA) (IRON--ANALYSIS)

KARZHAY, Ya.I., kandidat meditsinskikh nauk

Flamin. Apt.delo 5 no.3:45 My-Je '56.

(MLRA 9:8)

1. Iz laboratorii farmakologii Khar'kovskogo nauchno-issledovatel'-
skogo khimiko-farmatsevticheskogo instituta.
(EVERLASTING FLOWERS) (LIVER--DISEASES)

~~KARZHENEVICH, A.~~

Readers' conferences. Prom.koop. no. 4:38 Ap '56. (MLBA 9:8)

1. Rukovoditel' po literaturnoy rabote Doma kul'tury promkooperatsii
goroda Moskvy.
(Moscow--Libraries and readers)

KARZHENKINA, F. K.

6

✓ "Stil'baz" as reagent for aluminum. I. M. Karzen-
 min, E. S. Frum, and F. K. Karzhenkina. *Uchenye Zapiski*
 Khim. 1953, No. 4, 131-3; *Izvest. Zhur. Khim.*
 1953, No. 817. — Colorimetric detn. of Al with stil'baz is
 possible in 0.1 ml. soln. with a max. error of 11% and an av.
 error of approx. 4%. In 1 ml. soln. the limit of sensitivity
 is 0.06 γ /ml. Al and in 5-10 ml. soln. the sensitivity is
 greater. The presence of 200-300 γ Fe^{+++} /ml. (assuming
 preliminary reduction with ascorbic acid), <0.01 mg. Cu^{++} /
 ml., 0.1 mg. Zn /ml., 1 mg. Co^{++} /ml., 1 mg. Ni /ml., and 3
 mg. Cr^{+++} /ml. did not interfere. At 0.6-6 γ in 10 ml. of
 soln. the optical d. of the soln. did not change for 30-40 min.
 after addn. of a pH 5.4 buffer soln. and 0.01% reagent soln.
 M. Hoseh

PM 2/4

Investigating the unsaturated compounds in the fractions boiling at 200-300° (kerosene fractions) from the tars of the Barzans sapropelites. N. M. Karasayev and V. A. Kozhary. *Khim. Tverdogo Topliva* 2, No. 8, 34-40 (1961). The fraction of sapropelite tar b, 200-300°, sp. gr. 0.8231, 1 no. (Hurler) 10.3, was treated with Hg acetate for the sepn. of unsatd. compds. It was placed in a 2-l. flask, dissolved in 1 l. of CH₃OH and the required amt. of Hg acetate was introduced. It was placed on a water bath and heated with a reflux condenser to 70° for 5 days and the contents were agitated from time to time. The unchanged hydrocarbons were vacuum-distd. with CH₃OH on a water bath, the end of the distn. being indicated by the disappearance of turbidity on adding H₂O to the distillate. The complex Hg compds. were broken up with HCl and steam-distd. in a vacuum. The sepd. satd. as well as unsatd. compds. were washed in succession with NaHCO₃, Na₂CO₃ and H₂O, followed by drying over anhyd. Na₂SO₄. The sp. gr. of the sepd. satd. compds. was 0.8181 and the 1 no. 52.2 while the unsatd. compds. had an 1 no. of 118.7. Because of the high 1 no. the satd. compds. were treated once more with Hg acetate. The unsatd. compds. were distd. into a no. of fractions. The tar fraction b, 250-300° was treated in the same manner. Bromides were prepd. from the unsatd. compds. for better identification. The following compds. were found in the above fractions: C₁₁H₁₆, C₁₁H₁₄, C₁₁H₁₂, C₁₁H₁₀ and C₁₁H₈. A. A. B.

21

Gas-producer tar from coals of the Moscow basin.
N. M. Karavayev and V. I. Karshov. *Khim. Tverdogo Topliva* 3, 477-80(1932). The tar originated from the low-temp. carbonization plant in Bobrinski and was produced from Bobrikov coal. It contained 44% H_2 according to Dunn and Stark (C. A. 14, 2145). The moisture was lowered to 6% by centrifuging at 100°, and to 3.7% after drying with NaCl. Results of analyses are given for the tar, gasoline and kerosene fractions, residue and refined distillates. The analytical procedure is described in detail. A. A. Bochtlingk

ASAC SLA METALLURGICAL LITERATURE CLASSIFICATION

21

Low-temperature carbonization of Lenin coals. I. B. Rapoport and V. I. Karabek. *Khim. Tverdogo Topliva* 3, 688-74 (1982). The coals from the Serbryanikov, Maier, Boddushev and Zhurin layers from the Kapitalnaya mine of the Lenin deposit were subjected to a low-temperature carbonization in a Fischer retort heated to a max. temp. of 520° for 5-6 hrs. The coal was preliminarily ground to 2-3 mm., and the gasoline held by the gas was absorbed with paraffin oil passed through a scrubber charged with adsorbing C and glass balls. The water sepn. set in at 120-35°, that of the tar at 400-50° and that of gas at 400-50°. Conclusion: The tars from the Lenin coals are very different from those of sapropelite coals in that the former contain up to 30% of phenols. The gasolines are deficient in low-boiling fractions and can be classified as heavy gasolines. The kerosene yield is high although only 15-18% is left after refining. A. A. Bochtinsk

ASB-SEA METALLURGICAL LITERATURE CLASSIFICATION

21

Investigation of coals from the Irkutsk basin. N. M. Karavayev and V. I. Karshtey. *Khim. Tverdogo Topliva* 3, 783-83(1932); ~~ANALYSES~~, yields of lab. low-temp. carbonization tests and compu. of tar and light oils are given. A. A. Bochtlink

ASTM A 6 METALLURGICAL LITERATURE CLASSIFICATION

ca

72

Oils used in the absorption of natural gasoline. V. I. Karabey and A. F. Bolrova. *Khim. Tverdogo Topliva* 5, 830-40(1934).—The following are requirements for absorption oils: a sp. gr. either below or above 1, so as to permit a sepa. from H_2O ; viscosity low enough to facilitate the absorption and the movement of the absorbing oil layer; absence of solid substances; high b. p. Absorption should be rapid and the oil should not be changed by the absorption. Crude oil from the Barzaz sapropelite tar is suitable for gasoline absorption; it has a higher absorption power than gas oils used for that purpose.

A. A. Boetlingk

ASAC-SLA METALLURGICAL LITERATURE CLASSIFICATION

[illegible]

A. A. Polignony

ASW-5L A METALLURGICAL LITERATURE CLASSIFICATION

Catalytic dehydrogenation of cyclohexane. V. I. Kargin, V. I. Sever'yanova and A. M. Sivova. *J. Appl. Chem.* (U. S. S. R.) 9, 269-77 (In English; 278) (1936). Pure cyclohexane (Kahlbaum) (I) was conducted at a rate of 0.01 g./min. at 500-740° through a quartz tube (70 mm. long and 12 mm. in diam., charged with 250 mm. of its length with the catalysts Al_2O_3 (Ipat'ev and Dovgalevich, C. A. 6, 736), $Al_2O_3 + ZnCl_2$, Cr-Cu (Adkins and Connor, C. A. 25, 1000), and $HgPO_4$ on Al_2O_3 (Ipat'ev, *et al.*, C. A. 29, 734). Preliminary tests on I without catalysts showed no change. Cr-Cu caused only dehydrogenation, forming 80% aromatic compds. Other catalysts are less effective, forming some gaseous and liquid sat. and unsat. hydrocarbons and partly isomerized paraffins. Similar exps. with aviation benzine, b. 70-110°, freed from unsat. compds. with 3% fuming H_2SO_4 , and hydrogenated benzine, b. 200°, contg. 0.25% S, gave with Cr-Cu an increment of 80% aromatic compds. No poisoning of the catalyst by S was noticed. Chas. Blau-

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

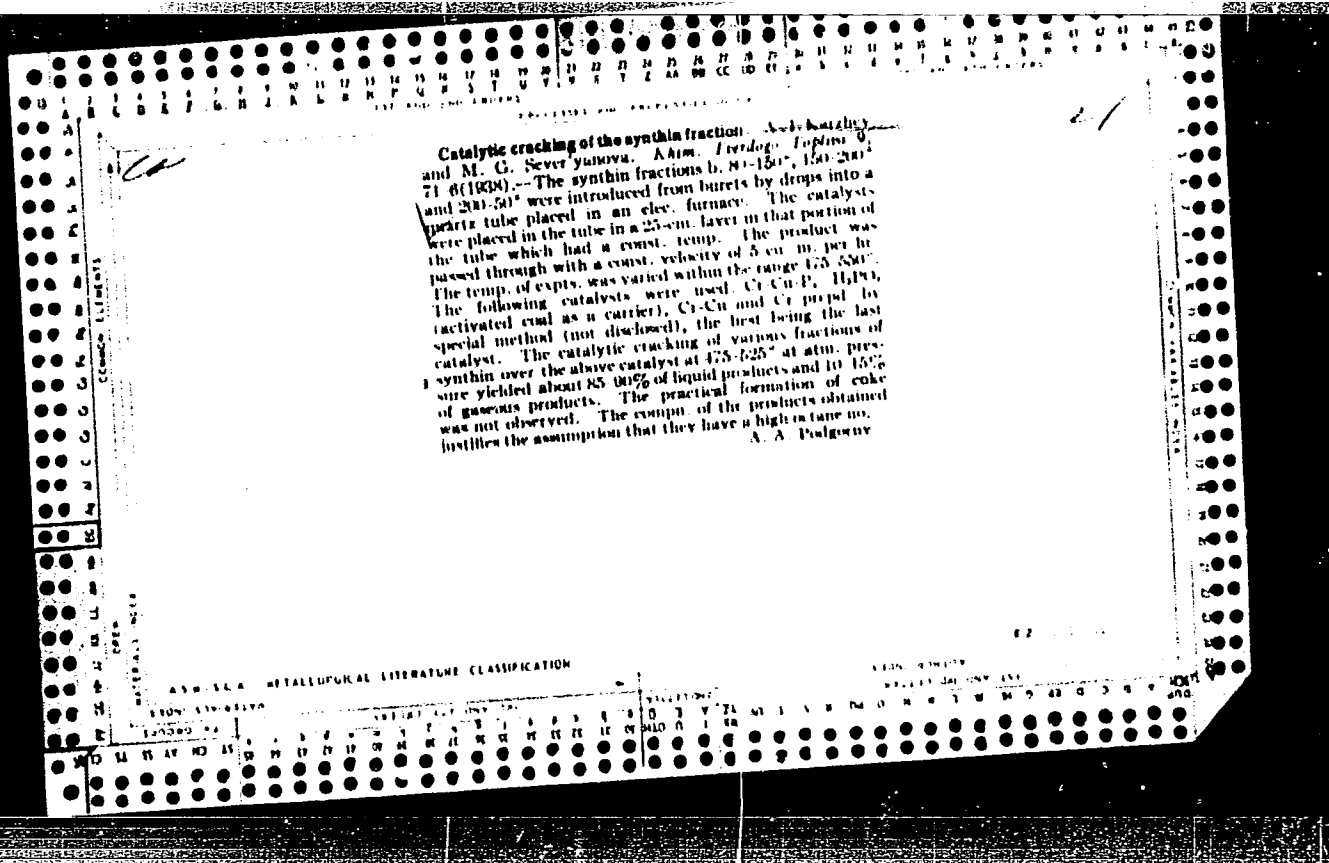
CIA-RDP86-00513R000720930002-8"

ka

21

Methods of investigation and analysis of the product
of semicoking and destructive hydrogenation. V. 1.
Karshev, Khim. Tverdogo Topliva 8, 240-71 (1967).
A review with 07 references. A. A. Podgorny

AS - 51 A METALLURGICAL LITERATURE CLASSIFICATION



Investigations of the kinetics of the dehydrogenation of decalin with different mixtures of catalyst. IV. V. I. Kabanov and Z. A. Vanil'eva. J. Phys. Chem. (U. S. S. R.) 11, 670-9 (1968); cf. G. A. 31, 240R. Dehydrogenation kinetics of decalin (Du Pont) with Cr + Zn + P, Cr + Cu + P and specially prep'd. Cr catalysts were investigated. The energies of activation from the equation $E = 4.57T \times 10^3 \log (K_2/K_1)(T_2 - T_1)$ was derived from Arrhenius equation, $k = Ae^{-E/RT}$. Values of E for the 8 samples of catalyst mixts. were detd. The dehydrogena- tion maxima for Cr + Zn + P, Cr + Cu + P and Cr alone maxims for Cr + Zn + P, the time of contact, t, was 13.67%, 16.4%, 16.3%, the time of contact, t, was 0.330-0.877 min., 0.500-0.775 min., 0.837-1.00 min., 0.330-0.877 min., 0.500-0.775 min., 0.837-1.00 min. Gas anal- yses at 400° in case of Cr + Zn + P catalyst showed 8% of hydrocarbon gases were present (owing to the cracking of hydrocarbon gases were present (Cr + Cu + P at 475°, unsmtd. hydro- carbon). With Cr + Cu + P were found, C₁₀H₈ gas (0.84-3.00%), carbons 0.61-1.97% were found, C₁₀H₈ gas did not exceed while at 400° the amt. of unsmtd. gases did not exceed 0.10%, C₁₀H₈ gases 0.1%. With Cr catalyst at 600-625° 0.10%, C₁₀H₈ gases 0.1%. With Cr catalyst at 400° the amt. of hydrocarbons is 4-6%. With Cr catalyst the dehydrogenation of decalin takes place rapidly at 400°, whereas at 500-625° cracking begins to yield 4-6% hydro- carbons. Cr + Cu + P was found to be the most active catalyst, but it is less effective than Cr, because it loses its activity after 16-20 hrs. The temp. coeff. of the reaction lies in the 1.3-1.4 region. From references. W. R. H.

ca

Kinetics of reactions proceeding on mixed catalysts.
V. I. Kurzhov and P. Z. Sorokin. *J. Phys. Chem.* (U. S. S. R.) 42: 42 (1938). *n*-Pentane and *n*-decane at 1 atm. were passed over specially prepared chromium catalysts heated to 400-500°, and the products of the cyclization of pentane and of cracking and cyclization of decane along with other products were detd. Two tables give the chem. compn. of the products obtained - aromatic, unsatd. and paraffins. No naphthenes were found. The reactions are first-order, and their rates are given by $\log K = 9.000 - 7833/T$ for pentane and $\log K = 11.962 - 9815/T$ for decane. The apparent energies of activation are, resp., 35,800 and 11,850 cal., and the temp. coeffs. are 1.41 and 1.51 per 10° interval. E. H. Rabinovich.

KARZHEV, V.I.

Hydrogenation of Cherevkhov Basin coal. V. I. Karzhev
and R. I. Silchenko. *Trudy Vsesoyuz. Nauch.-issledovatel.
Inst. Tekstil. Zhilogo Topliva i Gaze (VNIIT)* 1, 5-46
(1948).—A detailed report on the semindustrial hydrogenation runs with the sub-bituminous Cherevkhov Basin coal during 1941-1948. W. M. Sternberg

KARZHEV, V. I.; CROCHKO, D. I.; and KHEYFETS, Ye. M.

"Catalytic Aromatization of Gasolines", Transactions of the All-Union Scientific Research Institute of Synthetic Liquid Fuel and Gas, Moscow, Gostoptekhlizdat, 1950, volume II.

KARZHEV, V. I.

Not 7
Determination of the extent of destructive hydrogenation
 V. I. Karzhev, M. I. Orlovskii, and B. V. Kuznetsov
Prilozheniya k Zhurnal'noi Khimii, No. 4, 1954, No. 4, 85-4. Kinetic
 method to det. the extent of the hydrogenation of a poly-
 aromatic hydrocarbon with a com. For catalyst
 aromatic hydrocarbons, gum, and asphaltene. Hydrogen-
 ation was carried out under dynamic conditions at 300
 atm, at different temps, and space velocities, and evaluated
 from material balances by using the formula $\alpha = 2.3 \log$
 $[1/(1-y)] - \beta\theta$, where α is the relative reaction velocity,
 θ the conventional reaction time ($\approx 1/\omega$, ω the conversion
 rate, and β the inhibition coeff. (cf. Orlovskii *et al.*, *ibid.*
 No. 4, 117 (1951)); No. 4, 97 (1952)). W. M. Sternberg

*RIM
 gmb any*

SIL'CHENKO, Ye.I.; KAREHEV, V.I.; OROCHKO, D.I.; VAVUL, A.Ya.; ROBO-
ZHEVA, Ye.V.; BIERMAN, M.F.; SHAVOLINA, N.V.; MASINA, M.P.; GON-
CHAROVA, N.V.

In memory of Mariia Sergeevna Sudzilovskaia. Trudy VNIIGI no.6:
146-158 '54. (MLRA 7:11)
(Sudzilovskaia, Mariia Sergeevna, 1904-1953)

KARZHEV, V.I.

FOKIN, Vladimir Yakovlevich; PEBALK, Vladimir L'vovich; L'VOVA, L.A.,
redaktor; D'YAKOV, V.G., retsenzent; KARZHEV, V.I., retsenzent;
POLUBOYARINOV, G.N., retsenzent; ROZHINSKIY, P.S., retsenzent;
SAPSAYENKO, I.I., retsenzent; CHERNYSHEVA, I.G., retsenzent

[Equipment of factories producing synthetic liquid fuel; instal-
lation, maintenance, and operation] Oborudovanie zavodov iskusstven-
nogo zhidkogo topliva; montazh, remont i ekspluatatsiya. Moskva, Gos.
nauchno-tekhn. izd-vo neftyanoi i gorno-toplivnoi lit-ry, 1955. 400 p.
(Liquid fuels) (MIRA 9:3)

KARZHEV, V.I.

RAPOPORT, Iosif Borisovich, professor, doktor khimicheskikh nauk;
GOYKHRAKH, I.M., redaktor; YERSHOV, P.R., redaktor; KARZHEV, V.I.,
doktor tekhnicheskikh nauk, retsenzent; OROCHKO, D.I., doktor
tekhnicheskikh nauk, retsenzent; TROFIMOV, A.V., tekhnicheskii
redaktor

[Synthetic liquid fuel; chemistry and technology] Iskusstvennoe
zhidkoe toplivo; khimiia i tekhnologiya. 2-e, perer. i dop. izd.
Moskva, Gos.nauchno-tekhn. izd-vo neftianoi i gorno-toplivnoi
lit-ry, 1955. 546 p. (MIRA 9:3)

(Liquid fuels)

KARZHEV, V.I.

Chem USE OF HYDROGEN AND CARBON IN THE DESTRUCTIVE HYDROGENATION OF
FUELS. Karzhev, V.I. and Shuyvolina, N.V. (Khim. Tekhnol. Topilva (Chem.
Technol. Fuel, Moscow), (2), 30-34; abstr. in Chem. Abstr., 1956, vol. 50,
10379). A review of the effects of various catalysts and operating conditions
on the yields in hydrogenation of coal, tars, and oil residues. C.A.

2

KARZHEV, V. I.

Raw materials for synthetic-fiber manufacture from the products of petroleum refining. A. D. Sulinov, V. I. Karzhev, T. V. Zhokhovskaya, V. M. Olevskii, E. G. Venediktova, E. I. Silchenko, N. V. Shavolova, and A. A. Voltekhov. *Khim. i Tekhnol. Topliva* 1956, No. 1, 33-43. — The possibility of sepg. by azeotropic distn. a 100% concentrate of aromatic hydrocarbons from the products of an aromatization process was investigated. The feasibility of isomerizing m- and o-xylene to p-xylene by using cracking catalysts at 480-500° was confirmed. The possibility of sepg. p-xylene from aromatic hydrocarbon concentrates by isomerization and crystn. processes has been confirmed, as well as the possibility of C₆H₆ hydrogenation in a flow system at H pressure of 300 atm. and at 280-400° over com. catalysts. The conversion of C₆H₆ into cyclohexane with an industrially acceptable efficiency reaches 95-97%, and the cyclohexane produced is of very high purity.

W. M. Sternberg

KARZHEV, V.I.

Effect of oxygen- and nitrogen-containing compounds on the rate of hydrogenation of aromatic hydrocarbons. V. I. Karzhev, D. I. Orochko, E. I. Silchenko, and N. V. Shavdina. *Khim. i Tekhnol. Tspira* 1956, No. 12, 29-32.

Hydrogenation was carried out under 300 atm. H₂ with WO₃-SO₂-Ni catalyst at 300-400° in a continuous-fed app. Addn. of phenols to mixts. of aromatic hydrocarbons and heterocyclic compds. had no effect on the rate of hydrogenation. The degree of conversion of hydrocarbons at 320° decreased from 66% to 23% and that of phenol from 80% to 25% in the presence of 7 wt.-% pyridine. Under these conditions the conversion of pyridine was 80-85%. When the temp. was raised to 400°, the conversion of pyridine was 99%, hydrocarbons 60%, phenol 86%. Conversion of benzene at 300° fell, resp., to 72% and 88% in the presence of 1.6% and 0% pyridine. At 200° and 340° the conversion of benzene contg. 4% hydroquinone, resp., decreased by 93% and 70%.

A. B. Kotloby

KARZHEV, V.I.

6535* (Russian.) Indirect Method of Determining the Relative Activity of Catalysts. O kosvennykh sposobakh opredeleniya otnositel'noi aktivnosti katalizatorov. N. V. Gancharova, A. A. Vostekhov, V. I. Karzhev, and D. I. Gerasimov. Tekhnologiya Populyar, no. 6, Jan. 1955, pp. 3-13. Method and experimental data for evaluation of catalyst activity working under 800 atm. in hydrogenation processes.

KARZHEV, V.I.

GONCHAROVA, N.V.; VOYTEKHOV, A.A.; KARZHEV, V.I.; OROCHKO, D.I.

Indirect methods for determining relative activity of catalysts.
Khim. i tekhn. topl. i masel no.3:7-14 Mr '57. (MLRA 10:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotki
nefti i gaza i polucheniyu iskusstvennogo zhidkogo topliva.
(Catalysts)

KARZHEV, V. I.

AUTHOR: Karzhev, V. I., Doctor of Technical Sciences 30-8-36/37

TITLE: A Collection of Works Carried out by Siberian Scientists on Catalytic Hydrogenesis (Sbornik issledovaniy sibirskikh uchenykh po kataliticheskoy gidrogenizatsii).

PERIODICAL: Vestnik Akademii Nauk SSSR, 1957, Vol. 27, Nr 8, pp. 121-121 (USSR)

ABSTRACT: The publication of this book shows what great work has been done by the relatively young Institute for Chemistry of the West-Siberian branch. The work contains a great amount of experimental material, and much valuable research work has been carried out, the practical results of which have already been exploited for the benefit of the industry. Not less interest is aroused by a work by I. V. Kalechits and F. G. Salimgareyeva (results obtained concerning the destructive hydrogenization of the individual highest phenols). The book, however, also contains some articles which detract from the otherwise high level of the book, as e.g. that on "The Use of Steady Catalysts for the Destructive Hydrogenization of High-Molecular Raw Material" and some others. They deal with no new results and often repeat what has already been known for a long time. In conclusion, the author expresses the opinion

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A Collection of Works Carried out by Siberian Scientists 30-8-36/37
on Catalytic Hydrogenesis.

that such works belong rather to the series "Success Achieved in
the Field of Chemistry" (Uspekhi Khimii) but should not form part
of a work on the newest research results obtained by the branch
of the AN.

AVAILABLE: Library of Congress

Card 2/2

SOV/65-59-12-2/16

AUTHORS: ~~Karzhev, V. I.~~; Kasatkin, D. F. and Orochko, D. I.

TITLE: Hydrogenation of Heavy Petroleum Residues and Secondary Distillates (Gidrogenizatsiya tyazhelykh neftyanykh ostatkov i distillyatov vtorichnogo proiskhozhdeniya)

PERIODICAL: Khimiya i Tekhnologiya Topliv i Masel, 1958, Nr 12, pp 3 - 9, (USSR)

ABSTRACT: Methods for processing petroleum are based on the thermal and catalytic conversions of hydrocarbons. During this process, however, the yield of cracking residues and goudrons as well as distillates with lower hydrogen content, and of inferior quality gases, is increased. This is particularly undesirable during the processing of sulphur-containing petroleums. Disadvantages of destructive hydrogenation processes are pointed out. Comparative rates of liquid phase hydrogenation of various types of raw material at a pressure of 300 atms are given in Table 1. During the hydrogenation of the cracking residue, the reaction volume is decreased to 41 - 66%, (in comparison to petroleum residues obtained by direct distillation) and to 57 - 80% when heavy fractions of coke distillates are hydrogenated. Technical and economical aspects of hydrogenation processing can be improved

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Hydrogenation of Heavy Petroleum Residues and Secondary Distillates

by the modification of the liquid phase stage, and by using it in conjunction with other methods such as catalytic and thermal cracking processes. A further reduction of the reaction volume was achieved by using a one-stage liquid phase hydrogenation, and by using suspended and stationary catalysts. The output of the liquid phase hydrogenation plants was increased to 55 - 60%. The hydrogenation of unsaturated hydrocarbons, oxygen- nitrogen- and sulphur-containing compounds and of resinous substances, as well as the destructive hydrogenation with simultaneous cleavage of the molecule, can proceed at low pressures during the destructive hydrogenation process. Strongly aromaticised kerosine-gas-oil and high boiling distillates, with a high sulphur content, are obtained when using the aforementioned processes. Even more highly aromaticised products are obtained by selective extraction of oil and gas-oil fractions. At present, these products are used as additives for petroleum residues used for heating, for diesel fuels etc. which leads to a decreased yield of valuable motor fuels. These products can be converted to motor fuels by lowering their content

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of aromatic sulphur compounds and unsaturated hydrocarbons. Low boiling and slightly aromatised distillates with an increased sulphur content can be converted comparatively easily to fuels by catalytic hydropurification at pressures varying between 20 - 50 atms. Results of the hydrogenation of characteristic fractions, obtained during the catalytic cracking of heavy distillates, and of extracts obtained during the selective purification of oil fractions over a stationary very active catalyst, are discussed (Table 2). Satisfactory results were obtained with tungsten- or tungsten-nickel sulphide catalysts at 200 - 300 atms pressure and at a temperature of 320 - 400°C. Hydrogenates and their fractions, obtained under these conditions, differ in their chemical composition from the starting material as they contain large quantities of naphthenic hydrocarbon (60 - 70%), small quantities of aromatic compounds (from 6 to 10 - 12%), unsaturated hydrocarbons (1 - 2%) and only about 0.1% sulphur. Fractions boiling up to 300 - 350°C have comparatively high density, low freezing temperature and high calorific value. Fractions boiling above this temperature can be used as starting material for catalytic cracking and for

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the preparation of lubricants with a high viscosity index (Table 3). The consumption of hydrogen during the hydrogenation of heavy petroleum residues and of distillates constitutes 3.0 - 4.0%/weight of the starting material. The hydrogenates can be used for diesel and reactive fuels. Properties of the fractions boiling between 200 and 300°C, obtained from hydrogenates during the processing of a highly aromatic extract, are given. Both fractions have the same composition, but different freezing temperatures, which is explained by the different structure of the compositions. Products with analogous properties were also obtained from other aromatic raw materials (extracts of aromatic hydrocarbons obtained during the catalytic cracking of gas-oil; kerosine-gas-oil fractions obtained by direct distillation and fractions obtained during pyrolysis). The qualities of the fractions can be improved by a slight variation in the process conditions; for instance during the hydrogenation of the aforementioned raw materials over a tungsten or tungsten-nickel catalyst

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gasolines with low anti-detonating properties are obtained. Their octane number does not exceed 52 - 56 units. This can be increased to 84 by using a specially treated catalyst and increasing the process temperature. During this process, high pressures can be used more effectively when using active stationary catalyst than when using suspended catalyst. The degree of conversion of high boiling fractions into light products reaches 65 - 85% when increasing the rate of supplying the raw material, and is two to three times higher than during the liquid-phase hydrogenation with an iron catalyst. There are 4 Tables and 8 Soviet References.

ASSOCIATION:VNII NP

CARD 5/5

GONCHAROVA, N.V.; KRIVUZUBOVA, N.V.; YEVSEYEV, G.D.; VOYTEKHOV, A.A.;
KASATKIN, D.F.; KARZHEV, V.I.

Hydrogenation for obtaining products with a high content aromatic
hydrocarbons. Khim. i tekhn. topl. i masel 3 no.12:15-21 D '58.
(MIRA 11:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut neftyanoy promyshlen-
nosti.
(Petroleum products) (Hydrogenation)

KARZHEV, V.I.

5.3400

77101
004/63-a-6-35/37

AUTHORS: Moshkin, P. A., Kobzova, R. I., Vellizar'yeva, N. I., Soskin, M. A., Karzhev, V. I., Rapoport, I. B.

TITLE: Higher Aliphatic Alcohols From Solid Paraffin Oxidation Products

PERIODICAL: Khimicheskaya nauka i promyshlennost'. 1959, Vol 4, Nr 6, pp 811-812 (USSR)

ABSTRACT: This is a summary of the article published in Khimiya i tekhnologiya topliv i masel, 1960, Nr 1, pp 24-27, our Abstract 77043.

ASSOCIATION: Scientific Research Institute for the Processing of Petroleum and Gas and for the Production of Synthetic Liquid Fuel (Nauchno-issledovatel'skiy institut po pererabotke nefli i gaza i polucheniya iskusstvennogo zhidkogo topliva)

SUBMITTED: July 13, 1959
Card 1/1

3

Fundamentals of Synthesis Technology (Cont.)

SOV/4659

Ch. XIII. Destructive Hydrogenation of Coal and Resins as a Source of
Raw Material Production for the Organic Synthesis Industry
[V.I. Karzhey]

- | | |
|--|-----|
| 1. Chemical conversions in the hydrogenation process | 833 |
| 2. Composition of hydrogenation products and methods of their separation | 834 |
| | 838 |

AVAILABLE: Library of Congress

Card ~~21/21~~

JA/rn/gmp
1-19-61

S/065/61/000/001/003/008
E030/E212

AUTHORS: Karzhav, V. I., Rabinovich, B. Ya. and Yevseyev, G. D.
TITLE: Hydrogenation of the Ethers of Synthetic Fatty Acids
PERIODICAL: Khimiya i tekhnologiya topliv i masel, 1961, No. 1,
pp. 15-19

TEXT: The hydrogenation of the ethers of fatty acids in the range $C_{10} - C_{20}$ has been investigated, as a source of providing new surface-active agents. The methyl and butyl ethers were studied, and the acids themselves had been synthesized by oxidation from the paraffins, and then subsequently etherified. The efficiency of general conversion of the ethers was based on saponification values, and the efficiency of conversion into alcohols, on the hydroxyl numbers. The mean molecular weight of the starting material was 270, its acid value 0.4, saponification value 204, and the hydroxyl value 15. A commercial copper-chrome catalyst was used (15 gm). Hydrogenation took place around $250^{\circ}C$, under 200 atmospheres of hydrogen, and space velocities around 0.25-0.3 per hour. The reaction temperature coefficient is about 1.18 in the $230-250^{\circ}$ temperature interval, but about 1.14 in the

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S/065/61/000/001/003/008
EO30/E212

Hydrogenation of the Ethers of Synthetic Fatty Acids

250-270° temperature interval. However the degree of conversion falls a few percent in raising the temperature from the 250°C optimum to 270°C, because of secondary reactions. The degree of conversion is quite insensitive to alterations in the pressure of hydrogen between 200 and 300 atmospheres. The optimum degrees of general conversion were around 98.5% and for conversion into alcohols were around 97.8%. There are 3 tables and 6 Soviet references.

ASSOCIATION: VNII NP

Card 2/2

KARZHEV, V.I.; KASATKIN, D.F.; BULEKOVA, Ye.A.

Uses of quinoline from the by-product coke industry. Koks i khim.
no. 5:50-52 '61. (MIRA 14:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke
nefti i gaza i polucheniya iskusstvennogo zhidkogo topliva.
(Quinoline)

VOYTEKHOV, A.A.; KARZHEV, V.I.

Alkylation of isooctane with olefins. Neftekhimika 1 no.2:
201-203 Mr-Apr '61. (MIRA 15:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut neftyanoy
promyshlennosti.

(Alkylation)
(Octane) (Olefins)

15.4100 1583

33586

S/204/61/001/005/004/008

E075/E484

11.9100

AUTHORS: Zherdeva, L.G., Karzhev, V.I., Silchenko, Ye.I.,
Detusheva, E.P., Robozheva, Ye.V., Sidlyaronok, V.G.,
Lebedeva, N.M.

TITLE: Isomerization of hydrocarbons from petroleum paraffin
waxes

PERIODICAL: Neftekhimiya, v.1, no.5, 1961, 639-647

TEXT: Results are given of investigation into the isomerization
of solid paraffin waxes separated from high-sulphur crudes in
refineries. 98.6% of the waxes boiled between 350 and 450°C.
Their melting point was 51°C, sulphur content 0.03% and oil
content 2%. The waxes were typical commercial waxes with
relatively high oil content. Isomerization was conducted in a
laboratory flow apparatus under hydrogen pressure. Molten wax at
100°C mixed with hydrogen was fed into the reactor filled with
100 ml of catalyst. The reactor temperature ranged from 390 to
430°C. Industrial platinum catalyst was used. In some of the
experiments, 3% wt benzene was added to the wax to elucidate the
influence of aromatic hydrocarbons on the processes of chain
Card (1/0) 4/

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S/204/61/001/005/004/008

E075/E484

Isomerization of hydrocarbons ...

rupture and isomerization. Table 1 gives optimum reaction conditions together with some properties of the products. The presence in the products of isoparaffins is shown by the fact that a considerable lowering of their solidification point occurs after treatment with urea. Three fractions of the products were selectively dewaxed and clay-treated. Yields of the dewaxed oils varied from 82 to 75%, for the fractions boiling between 300 and 350°C, to 38% for the fractions boiling between 400 and 450°C. Solidification temperature for all dewaxed oils varied between -30 and -34°C. The wax separated during dewaxing contained about 90% urea adductable material and therefore is suitable for adding to the feedstock. Isomerization of wax of m.p.t. 58 to 60°C gives large quantities of paraffins boiling between 350 to 450°C, which have a special interest for oxidation to fatty alcohols and acids. Oils solidifying below -40°C were produced by a two-step dewaxing, the second step consisting of urea treatment. The oils have relatively low viscosities (3.5 to 10.1 cs at 50°C and 2.5 to 3.4 cs at 100°C) and high viscosity indices (115 to 142). Viscosity-gravity constants of the oils are below 0.77, densities lower than

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Isomerization of hydrocarbons ...

0.83 and refractive index n_D^{20} less than 1.4660. It is concluded that the oils consist of highly isomerized paraffinic hydrocarbons. The content of aromatic hydrocarbons in the oils varies from 8 to 12%. It is thought that they are mainly homologues of naphthalene. The oils obtained in the experiments in the presence of benzene have almost no resins, whereas the other oils contain 0.5 to 0.7% resins and are somewhat darker. The aromatic hydrocarbons improve oxidation stability of the oils as measured by sludge formation and acid value after testing by method VTI. More viscous oils (SAE 10) were obtained by adding 2% Acryloid 150 and polymethacrylate "D" (obtained in VNII NP) to the oils. The viscosity index is thus increased to 182-187. It is concluded that the isomerization constitutes a possible commercial process for the production of lubricating oils with high viscosity indices. There are 10 tables and 17 references: 5 Soviet-bloc and 12 non-Soviet-bloc. The four most recent references to English language publications read as follows: Ref.8: P. Schenk, A.B.H.Varvorn, H.I.Waterman, A.B.R.Weber. J. Inst. Petrol., v.42, 1956, 205; Ref.9: E.L.Breimer, H.I.Waterman, A.B.R.Weber. Card 3/04

33586

S/204/61/001/005/004/008

E075/E484

Isomerization of hydrocarbons ...

J. Inst. Petrol., v.43, 1957, 407; Ref.10: Brit. Pat. J. 66027,
28 March 1955; Ref.11: I.W.Gibson, G.M.Good, G.Holzman.
Industr. and Engng. Chem., v.37, no.16, 1959, 16.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut po
pererabotke nefiti, gaza i polucheniyu
iskusstvennogo zhidkogo topliva VNII NP, g. Moskva
(All Union Scientific Research Institute for Oil
and Gas Refining and the Production of Synthetic
Liquid Fuel VNII NP, Moscow) ✓

SUBMITTED: July 28, 1961

Card 4/8

KARZHEV, V.I.; KASATKIN, D.F.; SHAVOLINA, N.V.; KUZINA, T.A.

Extraction of aromatic hydrocarbons by propylene carbonate.
Khim.i tekhn.topl.i masel 6 no.4:6-9 Ap '61. * (MIRA 14:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke
nefti i gazov i polucheniya iskusstvennogo zhidkogo topliva.
(Hydrocarbons) (Extraction(Chemistry))

VASYUNINA, N.A.; BALANDIN, A.A.; KARZHEV, V.I.; RABINOVICH, B.Ya.;
CHEPIGO, S.V.; GRIGORYAN, Ya.S.; SLUTSKIN, R.L.

Production of glycerol and glycols by hydrogenolysis of
xylitol. Khim.prom. no.2:82-86 F '62. (MIRA 15:2)

1. Institut organicheskoy khimii AN SSSR, Vsesoyuznyy nauchno-
issledovatel'skiy institut po pererabotke nefi i gaza i polu-
cheniyu iskusstvennogo zhidkogo topliva, i MONIGS.
(Glycerol) (Glycols)
(Xylitol)

KARZHEV, V.I.; RABINOVICH, B.Ya.; YEVSEYEV, G.D.

Catalytic reduction of 2-hydroxyadipic aldehyde to 1,2,6-hexanetriol.
Neftekhimiia 3 no.2:267-270 Mr-Apr '63. (MIRA 16:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke
nefti.

(Adipaldehyde) (Hexanetriol) (Reduction, Chemical)

KARZHEV, V.I.; SIL'CHENKO, Ye.I.; GONCHAROVA, N.V.; SVIRINA, V.P.;
GOYKHMAN, G.L.

Activity of phosphoric acid catalyst pellets. Khim.i tekhn., topl.i
masel 8 no.8:19-23 Ag '63. (MIRA 16:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke
nefti i gazov i polucheniyu iskusstvennogo zhidkogo topliva.
(Petroleum—Refining) (Catalysis) (Phosphoric acid)

ACCESSION NR: AP4039763

S/0065/64/000/006/0024/0028

AUTHOR: Karzhev, V. I.; Sil'chenko, Ye. I.; Goncharova, N. V.;
Svirina, V. P.; Lebedeva, A. M.

TITLE: Separation of aromatic hydrocarbons by means of complexes

SOURCE: Khimiya i tekhnologiya topliv i masel, no. 6, 1964, 24-28

TOPIC TAGS: xylene, p-xylene, m-xylene, antimony(III) chloride,
p-xylene separation

ABSTRACT: A study has been made of the separation of p-xylene by means of complex formation with SbCl_3 from a mixture of C_8 aromatic hydrocarbons produced in the aromatization of gasoline fractions. The principal purpose was to determine the maximum percentage recovery of p-xylene obtainable. The purity of the isolated p-xylene was also studied. Xylenes, synthetic mixtures of pure p- and m-xylene, and the 136—140°C. xylene fraction produced at the Novokuybyshevskiy Refinery were used. SbCl_3 was dissolved in the

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ACCESSION NR: AP4039763

hydrocarbon mixture at 60—70C. The solution was cooled to a pre-determined temperature, and a $\text{SbCl}_3 \cdot \text{C}_6\text{H}_4(\text{CH}_3)_2$ crystal seed (mp, 56C) was added. After standing for one hour, the precipitated crystalline complex was filtered off and thermally decomposed at 136—144C.. The hydrocarbons were isolated by distillation. Optimum conditions for various stated initial compositions are given in tables. It was concluded that separation of highly concentrated p-xylene is best conducted in a continuous equipment in two or three stages, depending on the starting-material composition, the complex being decomposed between the stages. In this case, 94—96% p-xylene is produced after the last stage. The SbCl_3 can be repeatedly regenerated. The mother liquor can be returned to the first stage and m-xylene can be separated from it by complex formation with SbCl_3 under different conditions. This research was done at the All-Union Scientific Research Institute of the Petroleum Industry. Orig. art. has: 5 tables and 1 figure.

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ACCESSION NR: AP4039763

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 24Jun64

ENCL: 00

SUB CODE: GC

NO REF SOV: 003

OTHER: 003

Card 3/3

KARZHEV, V.I.; SIL'CHENKO, Ye.I.; ROBOZHEVA, Ye.V.; LEBEDEVA, A.M.

Transformations of high-boiling paraffin hydrocarbons under the conditions of hydrocracking. Khim. i tekhn. topl. i masel 10 no.11:4-9 N '65. (MIRA 19:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke nefiti i gazov i polucheniyu iskusstvennogo zhidkogo topliva.

GOLOTA, Ya.A.; CHEPUROV, K.P.; PRUSS, O.C.; KARYSHEVA, A.F.; GOLOVAN', R.I.

Characteristics of experimental leptospirosis in swine. Veterina'ia
43 no.8:29-33 Ag '64. (MIRA 184)

1. Ukrainskiy nauchno-issledovatel'skiy institut zemledeliya.

KULICHIKHINA, T.N.; KARZHEVA, L.V.; POTAP'YEV, S.V.

Seismotectonic characteristics of the areas of experimental
studies. Trudy Inst. geol. i geofiz. Sib. otd. AN SSSR no.16:
24-30 '62. (MIRA 16:9)

(Saratov Province—Geology, Structural)
(West Siberian Plain—Geology, Structural)

KARZHEVA, L.V.; PUZYREV, N.N.; Prinimali uchastiye: VINOGRADOV, F.V.;
BRODOV, L.Yu.; LANTSOV, I.A.; KHUDOBINA, L.N.; BAKHAREVSKAYA, T.M.

Experimental study of head transverse waves. Trudy Inst. geol.
i geofiz. Sib. otd. AN SSSR no.16:64-94 '62. (MIRA 16:9)
(Seismic waves)

EGOROV, A. M.; YUDINA, R. I.; KARCHOVA, I. V.

Velocity distribution of longitudinal and transverse waves in
the upper part of a section. Based. 1 from. geofiz. no. 51:3-10
164. (MIRA 17:11)

BUDANOVA, V.P.; DANILINA, A.I.; KARZHEVA, S.A.

Norms for weight and density deviations in manufacturing
woolen fabrics. Standartizatsiia 27 no.2:48-50 F '63.
(MIRA 16:4)
(Woolen and worsted manufacture—Standards)

Karzhizek, A.

3-10-29/30

AUTHORS: Karzhizek, A. and Shimechek, V., Senior Assistants

TITLE: The Teaching of Foreign Languages at the Prague Institute of Transports (Prepodavaniye inostrannykh yazykov v Prazhskom transportnom institute)

PERIODICAL: Vestnik Vysshey Shkoly, 1957, # 10, pp 94-95 (USSR)

ABSTRACT: The Prague Engineering Institute of RR Transport has four faculties, - Building, Mechanical, Exploitation, Electrical Engineering - and correspondence courses. The authors point out that knowledge of foreign languages is very important to future engineers. A compulsory course of Russian was included into the program. The chair of languages at the institute has three senior assistants, elected for three years. They may remain for nine years at the chair in the capacity of assistants. During that period they must reach the grade of a dotsent. Experienced workers who do not obtain a grade may be transferred to the category of lecturer-specialists. Requirements in the study of Russian are very high. The study of other foreign languages is not yet compulsory, but is planned for the future, i.e. the introduction of German

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3-10-29/30

The Teaching of Foreign Languages at the Prague Institute of Transports

is foreseen at the faculty of exploitation. There are, however, no fixed plans on this subject. Some Soviet textbooks are utilized in the courses. The chair conducts scientific research work and collaborates with other chairs, by translating material from foreign periodicals. Professor I.G. Tikhomirov and professor V.N. Stogov from USSR gave lectures during one semester. There was also a visit by a Chinese scientist.

Collaboration was established with the Dresden Institute of Transports, the members of the chair acting as interpreters.

ASSOCIATION: The Prague Engineering Institute of RR Transport (Institut inzhenerov zheleznodorozhnogo transporta v Prage)

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